

Remarks

Claims 12 – 20 are pending in the present application. Claims 12 – 20 were rejected in the Office Action mailed May 25, 2006.

Claims 13-14 and 19-20 were rejected under USC 112, first paragraph and Claims 12-20 were rejected under USC 112, second paragraph. Claim 20 was substantially incorporated into claim 12, whereas "radiation" was deleted and "pH" changed into "pH adjusted water mist", as specified on p.7, l. 14. Claims 19 and 20 were cancelled. Furthermore, in claim 12 it was also specified which activation can be applied to which polymers: Water mist can be applied to polymers having a shell and a core (examples 2 to 4 on p. 9, l. 22 to p. 10, l. 24), heat can be applied when the polymer is a heat sensitive powder (examples 5 and 6 on p. 10, l. 26 to p. 11, l. 10), and a pH adjusted water mist can be applied when the pH-activated polymer is forming reactive bonds (p. 7, l. 15) and/ or contains NR_3H^+ groups (p. 4, l. 23 – 24). Claim 13 was amended to specify "and is activated by water mist or by pH adjusted water". Together with the amended claim 12 it is now clear that claim 13 does not refer to heat activation. Claim 14 was stated to contain New Matter in combination with the original disclosure. Non-metallic substrates are defined on p. 5, l. 25 – 28. The powder adhesive can be applied onto many substrates as specified by various applications on p. 7, l. 26 – p. 8, l. 2. and p. 8, l. 20 – 23. Furthermore, the not limiting examples disclose the following combinations: paper/ paper (examples 2 and 4), cardboard/ paper (example 3), plastic/ glass (examples 5 and 6) as well as plastic/ paper (example 7). In view of the amendments it is respectfully submitted that claims 13 and 14 are patentable under 35 U.S.C. 112, first paragraph, and claims 12 – 18 are patentable under 35 U.S.C. 112, second paragraph.

Claims 12, 14 – 18 and 20 were rejected as unpatentable under 35 U.S.C. 103(a) over Akasaki et al (US 4,859,266) in view of Shirayanagi et al (US 5,306,545). Claim 20 has been cancelled. Akasaki et al discloses a process comprising 1) applying electrostatically a nylon powder adhesive onto the fabric, 2) overlaying a 2nd fabric onto the adhesive coated fabric, 3) and only then applying heat and pressure to the pair of fabrics. However, the inventive method describes a process where the activation of the powder adhesive is made first, followed by contacting the activated adhesive-containing substrate with another substrate (as specified in claim 12 (c)). This is a very important difference, since applying a second substrate onto an activated substrate results in much faster adhesion compared to the opposite order. This then allows higher manufacturing speed. Furthermore, additional activation means are possible, and, when heat is used, less heat needs to be applied, since it does not need to pass the second substrate, which can have some insulating effect, or can be thermo-sensitive, such as e.g. plastic.

By using e.g. a melt-blown non-woven web suggested by Shirayanagi et al, as proposed by the Examiner, one skilled in the art still would not arrive at the method as described by claim 12. Additionally, it would not be obvious how one should use a melt-blown non-woven web having a softening point between 120 and 130°C (Shirayanagi et al, col. 4, l. 16 – 17) with a powder adhesive having a melting range between 115 – 125°C (Akasaki et al, col. 5, l. 26) at a temperature up to 120°C, since even between 115 and 120°C the web is expected to be already fairly soft, while the adhesive itself only starts to melt. Hence, in case it would be possible, this would be a very delicate, time consuming method. The methods described in claim 15 and 17 are well possible when using a method as defined in claim 12, while not possible when using the Akasaki process, since applying the second substrate onto the non-activated adhesive is a must in claims 15 and 17. Accordingly, it is respectfully submitted that claims 12 and 14 – 18 are patentable under 35 U.S.C. 103(a) over Akasaki et al (US 4,859,266) in view of Shirayanagi et al.


Claims 12, and 14 – 20 were rejected as unpatentable under 35 U.S.C. 103(a) over Rinehart et al (US 5,827,608) in view of Hefele (US 4,080,347) or McConnell et al (US 4,727,107). Claims 19 and 20 have been cancelled. Rinehart et al describes a method of forming a thermoplastic layer on a flexible, two-dimensional substrate (see abstract, first two lines). This leads to a coating of the substrate. It is important to note that a coating layer (one surface is in contact with air) is distinct different to an adhesive layer (both surfaces are in contact with substrates). Coatings (when applied) need resistance to dirt, mechanical impacts, heat exposure from e.g. sunlight as well as UV-light stability etc. Therefore, they must – also at elevated temperatures - be non-tacky and must have a certain scratch hardness, as well as other properties, which explains the properties of the used materials by Rinehart (e.g. the high melting point). This is in general in contrast to adhesives, which need to keep e.g. the adhesive character with a certain tackiness. When using an adhesive as mentioned by Hefele and/ or McConnell in the Rinehart method, as suggested by the Examiner, the applicant expects to obtain a polymer surface which lacks significantly the properties mentioned earlier. Furthermore, one skilled in the art, in view of these two references, would not know how and when to apply a second substrate. Hence, that person would not arrive at the inventive method as defined by claims 12 and 14 – 18. Accordingly, it is respectfully submitted that claims 12 and 14 – 18 are patentable under 35 U.S.C. 103(a) over Rinehart in view of Hefele or McConnell.

The Examiner mentions the restriction made previously regarding the glass transition temperature T_g to be between -60 and +40 °C and understands it to be a contradiction in the light of the glass transition temperature of Nylon being above 40 °C, since polyamide is also mentioned in the description. However, the description reads on p. 4, l. 21 "polymers having

Polyamide groups...". Hence, the polymer is not a sole polyamide, but contains groups of polyamide as well as other groups. Therefore, there is no contradiction present.

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance. If there are any issues that the Examiner wishes to discuss, he is invited to contact the undersigned attorney at the telephone number set forth below.

Respectfully submitted,



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